THE PLANT DISEASE REPORTER

Issued By

THE PLANT DISEASE SURVEY

Division of Mycology and Disease Survey
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

Volume 31 Number 8

August 15, 1947

The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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DIVISION OF MYCOLOGY AND DISEASE SURVEY

Plant Industry Station Beltsville, Maryland
Volume 31 August 15, 1947 Number 8

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GLOMERELLA LEAF SPOT OF MAGNOLIA

Marvin E. Fowler

A very striking leaf spot is prevalent on the older foliage of Magnolia grandiflora L. in the South. Numerous collections of this disease have been made by various mycologists and pathologists during the past 30 or more years, but its cause was not determined. The leaf spot is usually circular and averages about 1/2 inch in diameter. Spots frequently merge, and the resulting necrotic area may be an inch or more long. The spots appear to be very dark brown, almost black, surrounded by a narrow pale yellow border (Fig. 1). Closer examination reveals that the necrotic tissue on the upper leaf surface is finely mottled dark brown and black. Pustules with the appearances of fungus fruiting bodies are common on this tissue, but those examined proved to be sterile. On the under side of leaves the spot is more uniformly dark brown and is sometimes zonate.

The disease has been found to be caused by the apple bitter rot fungus, Glomerella cingulata (Ston.) Spauld, and Schrenk. The fungus is easily isolated from diseased leaf tissue. Cross inoculations made with isolates from diseased magnolia leaves and bitter rot of apples produced identical leaf spots on magnolia leaves and indistinguishable bitter rot on apples.

The leaf spot of magnolia caused by the parasitic alga Cephaleuros virescens Kunze may be as large as the Glomerella spot but is easily distinguished from it by the hairlike outgrowths of the alga that forms a velvety coating on the upper side of the leaf.

Recent collections have been made of the Glomerella leaf spot on native and planted magnolias in South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas. All of these collections were made within the natural range of the host tree. The disease does not appear to prematurely defoliate or slow the growth of trees, nor does it greatly mar the beauty of ornamental trees. The healthy new foliage very largely obscures the spots that develop in the spring on leaves remaining from the preceding year. Control measures have not been attempted.

DIVISION OF FOREST PATHOLOGY, BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING, U. S. DEPARTMENT OF AGRICULTURE, BELTSVILLE, MARYLAND

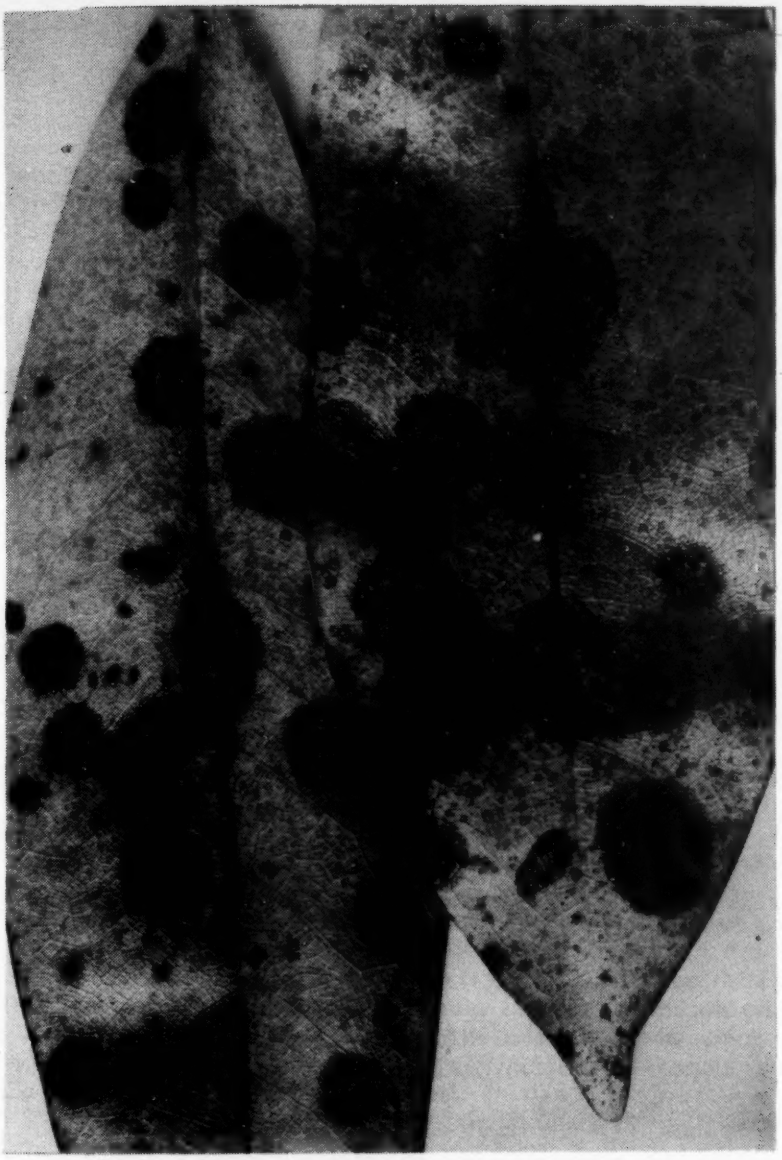


Figure 1. Leaf spot of *Magnolia grandiflora*, caused by *Glomerella cingulata*. Natural size.

OUTBREAK OF ASCOCHYTA CANKER OF COTTON IN GEORGIA

B. B. Higgins

"Wet weather canker", caused by Ascochyta gossypii Syd., was widespread and destructive on cotton in Georgia during the last week of June. On June 26 a local farmer phoned in that some disease was ruining his cotton. His field was inspected and A. gossypii was found causing serious damage. The leaf-spot phase was present on almost 100 percent of the plants, a large percentage showed stem cankers, and approximately 10 percent of the plants were dead or injured beyond recovery. During the following three days reports and specimens were received from eight counties and the disease was found active in every cotton field visited. Later reports indicate its prevalence throughout the northern half of the State.

Weather records, June 20 to 27, 1947, at Experiment, Georgia

Date	Rainfall in inches	Temperature in degrees F. Maximum	Minimum
June 20	2.91	89	67
" 21	1.99	72	60
" 22	0.19	69	56
" 23	0.00	77	52
" 24	0.00	79	64
" 25	0.26	77	67
" 26	0.00	88	65
" 27	0.60	89	68

This period of high humidity came soon after a similar period on June 11 to 14 and the fungus was probably already abundant on the leaves. Now, after two weeks of sunshine and warmer weather, the disease symptoms are, in most fields, hardly noticeable except through close examination.

This is the fourth year in which the disease has been recorded here: 1915, 1922, 1940, and 1947. The damage produced in 1947 appears to be more severe than in any previous year because small plants lack the ability to recover and put out new growth. Owing to the cool, rainy weather during April and May cotton was planted two to three weeks later than normal, and continued cool weather caused the plants to be severely damaged by flea hopper, thrips, and other insects. In some fields the plants were only six to eight inches tall when attacked. In such fields the fungus frequently entered and killed the stem at the first node.

Many growers were positive that the disease was worse following cotton than where some other crop was grown last year, and observations on several farms tended to support this conclusion. Elliot (Elliot, J. A. A new Ascochyta disease of cotton. Arkansas Agr. Exp. Sta. Bul. 178; 18 p. 1922.) reported overwintering of the fungus on dead cotton stalks.

There is some indication of differences in susceptibility among varieties; but the data available are not conclusive.

GEORGIA AGRICULTURAL EXPERIMENT STATION, EXPERIMENT

AN UNUSUAL DISEASE OF COTTON IN GEORGIA

Julian H. Miller

This June there has been a most serious outbreak of leafspot and stem canker due to Ascochyta gossypii. I have received specimens and have made trips for survey from Banks down through Jasper Counties. Cotton plants in this area now vary from small seedlings in the north to plants 15 to 20 inches high in southern counties. In all cases there are the same symptoms--spots 2-6 mm. in diameter on the leaves and cankers on the leaf or branch axils. Often leaves die with no apparent spots, but there will be a girdled stem. Losses have run as high as 30 percent dead or dying plants in some fields.

In past years I have found this fungus every summer, but this is the first time the disease has been noticeable in 15 or 20 years. There have been some very hard rains and cloudy days, which probably accounts for the high incidence.

UNIVERSITY OF GEORGIA, ATHENS

FIG MOSAIC IN GEORGIA

Kenneth H. Garren

A fig mosaic typical of that described from California by Condit and Horne (Phytopath. 23: 887-996. 1933) was discovered this spring in gardens in Macon, Georgia. Leaves of affected plants usually have large, prominent mottled areas which, in general, are centered around the main veins. Some leaves, however, are well covered with small, scattered chlorotic spots. In early April many leaves had large necrotic spots at the lobe tips, but it is possible that this necrosis was the result of a late freeze rather than a result of the disease.

Some leaves developing in April and May were dwarfed, malformed, and distinctly chlorotic. Small necrotic areas were found on a few fruits in early April, but these fruits soon dropped off. All fruits remaining after mid-April appeared normal, and mosaic spotting of the fruits (Phytopath. 33: 719-723. 1943) was not evident. Dr. Condit has examined diseased leaves and agrees that it is a distinct case of fig mosaic.

The owner of one of these gardens first noticed the condition in 1946, when only one plant of the variety Celeste appeared diseased. By April 1947 adjacent Green Ischia and Brown Turkey bushes had also developed the disease. In this garden two fig bushes, a Lemon and a Brown Turkey, appear to have escaped infection thus far. Mosaic is prevalent on Brown Turkey bushes in an adjoining garden, and the owner of these bushes feels sure that the disease was not evident in 1946. The disease has also been found on Brown Turkey bushes located one mile from these gardens. All diseased bushes examined have received excellent care and there is no evidence of nematode infestation.

In 1941 Dr. Condit (Phytopath. 31: 563) reported fig mosaic as "virtually nonexistent" in the southern United States. He stated: "It was seen on trees grown from cuttings recently obtained from California, but 'fig bushes' long established in doorways and in small commercial plantings show foliage free from the characteristic mottling caused by mosaic." The best information obtainable indicates that all of the diseased bushes on which the present report is based are of local origin. Most of them have been in their present location for seven years or longer. There seems little probability that any of them came from cuttings of California stock. It appears, therefore, that a mosaic disease has become established in Georgia-grown fig bushes and is spreading to other locally-grown bushes.

GEORGIA AGRICULTURAL EXPERIMENT STATION, EXPERIMENT

ALFALFA AND CLOVER DISEASE SURVEY IN VIRGINIA

S. B. Fenne, C. L. Lefebvre, R. G. Henderson,
H. M. Tysdal, and T. J. Smith

During the week of April 14 a disease survey was made of alfalfa and clover in the Counties of Orange, Culpeper, Shenandoah, Rockingham, Augusta, Rockbridge, Botetourt, and Montgomery.

Because of the very late cool season, leaf spots had not developed on alfalfa to any great extent. However, in Orange County, black stem (Ascochyta imperfecta) was found in one field. The pycnidia seemed swollen and were exuding spores during this wet period. Many farmers

were having trouble in getting alfalfa stands to last more than three years. Most older stands were thinning out rapidly. This situation has discouraged many growers from increasing their acreage of alfalfa. Good stands are usually secured the first year, but they thin out about the third year, thus making it an expensive procedure as the cost of alfalfa seed is so high. The problem of maintaining stands of alfalfa longer than three years appears to be a complex one. Some of the troubles are doubtlessly caused by insufficient fertilization, which predisposes the alfalfa plants to diseases. It seems that the soil and fertilizer specialists, pathologists, physiologists, and agronomists could well work together in trying to solve this important problem.

Bacterial wilt (Corynebacterium insidiosum) was found in Shenandoah, Montgomery, and Botetourt Counties. Previously, this disease had been found only in Shenandoah and Montgomery Counties. Poor stands were observed in many alfalfa fields in all three counties. Plants in some of these fields gave the appearance of being affected with wilt, the roots being water-soaked and somewhat darker color than normal. However, the symptoms were not wholly typical of bacterial wilt, and subsequent laboratory tests failed to show the presence of the bacterial wilt organism. In several instances, it was found that the soil was very alkaline, in some cases, as high as pH 7.8. In several counties, especially in Botetourt, alfalfa plants were observed in many fields that were stunted and appeared to be affected with a virus disease.

Root knot (Heterodera marioni) was observed to be causing severe injury in a field of red clover in Botetourt County. Plants in spots 5 to 10 feet in diameter were dying, or had been killed. In several adjoining alfalfa fields, uneven stands were observed. Field examination of these plants did not show typical root knot symptoms, but later examinations in the laboratory showed a considerable number of inconspicious root knot galls on the roots.

Downy mildew (Peronospora trifoliorum) was observed rather generally distributed in new stands of alfalfa. Stem rot (Sclerotinia trifoliorum) was seen in one field in Culpeper County and in the experimental plots at Blacksburg, where abundant sclerotia were found. There was very little evidence of this disease in the valley counties, which is strikingly different from that observed in the eastern part of the State earlier this spring. In the eastern area, stem rot is by far the most serious disease of alfalfa and seemed to be primarily responsible for killing some 20 to 50 percent of alfalfa stands in many instances.

Many fields were visited where a heavy infestation of green aphids were present; and in several fields definite symptoms of potash deficiency were observed.

In the alfalfa variety test plots located at Orange, Staunton, and

Blacksburg, the outstanding varieties were Williamsburg, Atlantic and Kansas Common. Argentine was the poorest variety, while Ranger and Buffalo were fair, with Buffalo being a little better than Ranger.

VIRGINIA EXTENSION SERVICE, U. S. DIVISION OF FORAGE CROPS AND DISEASES, AND VIRGINIA AGRICULTURAL EXPERIMENT STATION

DISEASES OF SMALL GRAINS IN GEORGIA, 1946-1947

Julian H. Miller

A survey of grain fields was made at intervals beginning in November and running through February for seedling stages, and later in May and early June for mature fields. This information was supplemented by specimens sent in by many county agents and agronomists at the Experiment Stations and in the Extension Service.

Oats received the major attention because of the unusually high disease incidence and the widespread publicity given the new blight (*Helminthosporium victoriae*). Results of the survey follow below according to crop.

OATS

Last November and December most oat fields looked as though they had been scorched. It was currently thought that this was all due to *H. victoriae*. Results of the survey show, however, that the latter was found (see Figure 1) rather widely scattered over the State, but in only 16 counties out of 32 sampled. On the other hand *H. avenae* was very prevalent in almost every field inspected (see Table 1), and with the unusually high incidence of lice, produced most of the blighting seen in the seedling stages. This was probably due in part to the very mild fall and early winter and also to much early planting. Where oats were planted in pastures for early fall grazing the dead leaf areas ran as high as 95 percent in some cases.

Later, in May, some fields showed heavy losses with 50 percent or more of the stand dead in the seedling stage, but many others recovered to the extent of making a fair crop. This year *H. avenae* destroyed most of the leaves in the milk stage, and so produced an effect similar to that of crown rust. There was no appreciable difference in varietal resistance.

The new species, *H. victoriae*, when found in the seedling stage could not be distinguished with certainty except through cultures, but in May such fields showed much lodging and necrosis of lower nodes and root system. No such symptoms were found in plants affected with

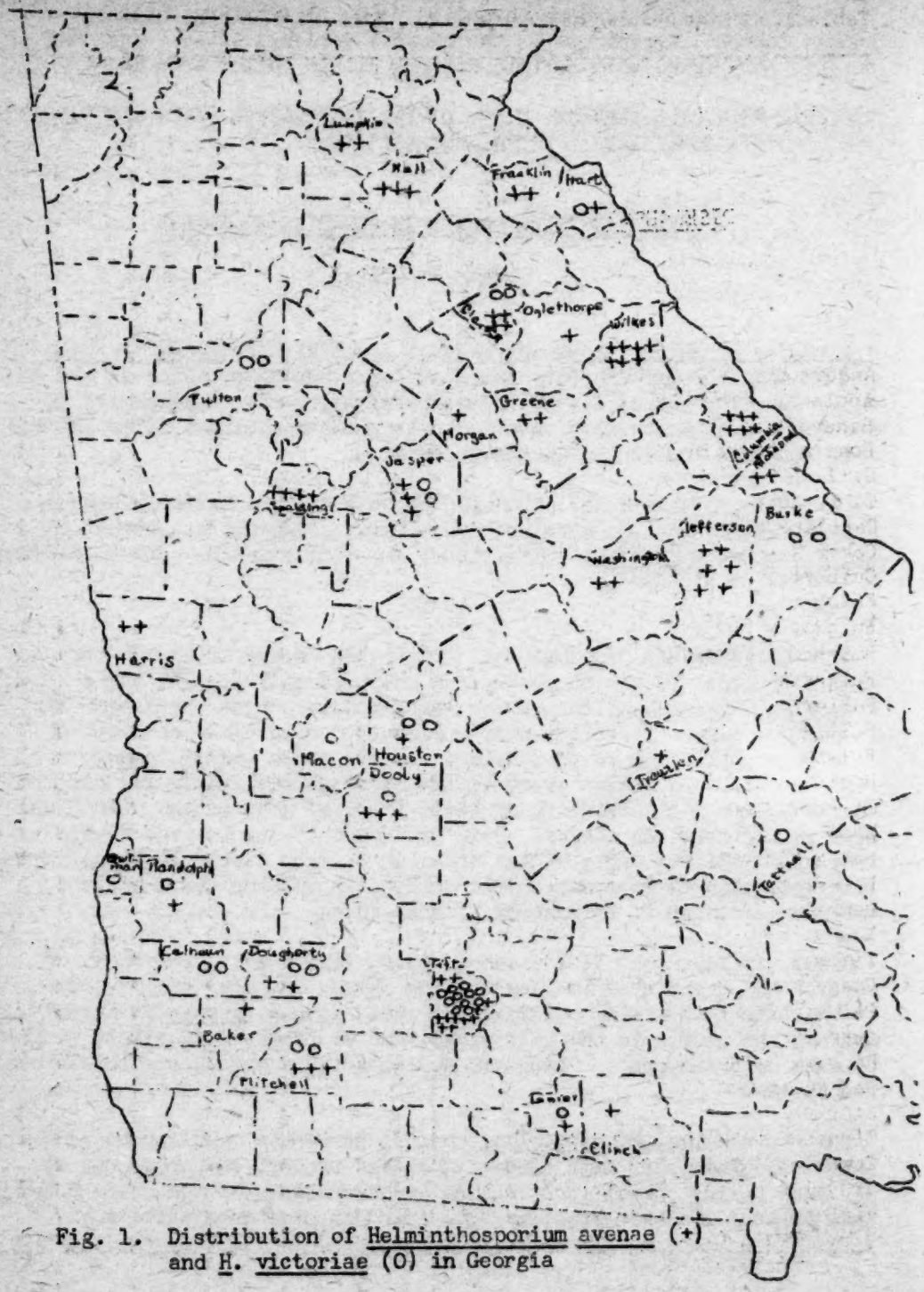


Fig. 1. Distribution of Helminthosporium avenae (+) and H. victoriae (O) in Georgia

Table 1. Diseases of oats in Georgia, 1946-1947.

Oat Variety	Helminthosporium victoriae	Helminthosporium avenae	Helminthosporium sativum	Puccinia coronata	Erysiphe graminis	Mosaic	Aphids
Anderson		2					1
Appler		1					
Bancroft		6					1
Bond x Fulgrain		1					1
C. I. 4219		1	1				
C. I. 4670	1						
Carolina Red		2					1
Coker No. 44		1					1
Culbertson x Victoria		1					1
Fulghum		1					1
Fulghum x Bond		1					1
Fulghum x Victoria		1					1
Fulgrain	4	9	1				2
Fuller		1					
Fultex		1					1
Fulwin		1					1
Hastings 100 Bu.		9					1
La Prevision		1					1
Lega	3	5					
Lee x Victoria		2					2
Lee-Victoria x Richland		1					1
Lemont		1					1
LeRoy	1	1					
Letoria		1					1
Osage	2						
Palestine x Dawn		1					1
Quincy	1	3	1	1			1
Ranger		1					1
Red Rustproof		5		2			
Stanton	1	4					3
Tennessee 1922 x Bond		1					1
Texas Rustproof		4					
Traveler		1					1
Vicland	3	2					1
Victorgrain	15	14	1	3	4		3
No. of fields	31	87	4	6	4		32
No. of varieties	9	32	4	3	1		26

1. Numbers in table refer to fields.

H. avenae. All of the varieties attacked contained Victoria genes which is in accord with findings in other States.

A root rot due to H. sativum was found in four fields. This was readily distinguishable from the new blight by the absence of spore masses and necrosis of the lower nodes.

Crown rust (Puccinia coronata) was sporadic in occurrence. In May many fields showed traces of rust, but in most cases the leaves had already been destroyed by H. avenae before the rust arrived. Only in a few fields in Washington County was rust found 100 percent on oats in the milk stage.

Powdery mildew (Erysiphe graminis f. avenae) occurred in four fields and in some started in early fall and produced as much loss as either of the Helminthosporium species.

A typical mosaic [virus] was found in an unidentified variety in Butts County and in one case in the trials at Athens.

Aphids were very serious last fall and destroyed many stands and were often confused with Helminthosporium blights.

Many fields inspected were planted with Ceresan treated seed, but this did not apparently control either of the two common Helminthosporium blights.

WHEAT

Leaf rust (Puccinia rubigo-vera var. tritici) was found in nearly all fields inspected in November, December and January. Seedling disease ratings are given in Table 2.

Hardired was the most resistant variety, and Carola and Sanett the most susceptible, with Redhart, Nured, Bluestem, Vahart, Leof, and Sanford also heavily rusted.

The fall season was unusual in that leaf rust overwintered in North Georgia on many farms. In November several fields in Madison and Gwinnett Counties were plowed up because of 100 percent infection. On the other hand, other fields in the same area had no rust and it was not as common in south Georgia as in most years.

In May in middle Georgia in Washington and Jefferson Counties, large acreages, up to 2,000 acres in one farm, showed all leaves dead with rust with only the upper stem green. Most of this wheat was either Redhart or Sanford, and varied from milk to soft dough stage. In north Georgia many fields were inspected and with few exceptions the rust was not quite so serious. Wheat was in the dough stage before all

Table 2. Wheat seedling disease ratings, fall and winter, 1946-47.

County	Date	Variety	Disease Rating[a]
Burke	12/12/46	----	3
Clarke	12/9/46	Sanford	4
Dougherty	12/17/46	Black Hawk	2
Gwinnett	12/2/46	----	4
Houston	12/17/46	Sanford	2
Oconee	12/3/46	----	5
Randolph	12/20/46	Redhart	1
Spalding	1/27/47	----	4
Tift	12/18/46	Hardired	3
"	"	T. 50	1
"	"	Sanford	4
Agronomy Department Trials, Clarke County, February 3, 1947			
		Redhart	4
		Hardired	1
		N. C. Hybrid	3
		Nured	4
		Carola	5
		Hybrid (Ga.)	1
		Clemson Bluestem	4
		Hybrid (Beltsville)	2
		" "	1
		" "	1
		" "	1
		Sanett	5
		Hybrid	1
		"	4
		"	4
		"	1
		Purcam	3
		"	1
		Vanhart	4
		Leap	4
		Sanford	4

[a]

Disease rating	Percent leaf area dead
1	1 - 20%
2	21 - 40%
3	41 - 60%
4	61 - 80%
5	81 - 100%

leaves were destroyed. Few fields that were heavily infected last fall made very low yields.

Powdery mildew (Erysiphe graminis f. tritici) was found on Sanford wheat in Clarke, Jackson and Wheeler Counties and on Redhart in Washington. In all cases much of the leaf area was destroyed. The leaf and glume blotches (Septoria tritici and Septoria nodorum) were very prevalent in the Clarke County plots, but were not so common on farm fields.

The Hessian fly added a new complication this year. It was found in Jefferson, Oconee, Clarke, Barrow and Burke Counties. In infested fields there was much lodging.

BARLEY

There is very little barley grown in Georgia. Last fall powdery mildew (Erysiphe graminis f. hordei) was the chief seedling disease.

The Agronomy Department trials in Clarke County showed the following disease rank chiefly from powdery mildew February 3, 1947:

Cal. x Tenn. Winter	1	Ky. No. 1	2
Cal. x Mariout	1	Ky. No. 2	2
Club Mariout	1	Clemson Hooded	4
Atlas	0	Hybrid (Beltsville)	2
Arivat	1	" "	1
Jackson 2 x Tenn.	2	Marrett No. 5	1
Hybrid Tenn.	4	" No. 2	1
Davidson (N.C.)	5	Davidson x Sunrise	3
Sunrise	1	Wong	1
Hooded No. 26	2		

This mildew was found on farm fields in Clarke, Oconee, and Franklin Counties, on Sunrise in the first two and on Calhoun in the last.

Stripe (Helminthosporium gramineum) was noticed on Davidson and Greece barley at the Georgia Experiment Station and on Cal. x Mariout and Marrett No. 5 in the above trials. Net blotch (H. teres) appeared on Sunrise in Clarke and Oconee Counties. In one case in May the leaves were all dead apparently from this blotch at the soft dough stage.

Root rot (H. sativum) occurred in fields in Burke, Clarke, and Dougherty Counties. In one 50-acre field in Clarke County, the yield last year was approximately 50 bushels per acre and this year on the same land it is about 12. Most of this decrease has been due to powdery mildew and root rot.

Rust (Puccinia anomala) [P. hordei Otth.] occurred on all varieties to a slight extent last fall and was very serious on Clemson Hooded.

UNIVERSITY OF GEORGIA, ATHENS

UNSEASONABLE DEVELOPMENT OF LATE BLIGHT IN FLORIDA

G. R. Townsend

Late blight of potatoes and tomatoes has been regarded as a disease which appears only during the cooler portions of the growing season. In fact, data from laboratory studies show that the optimum temperature for zoospore production is under 60° F. and that infection does not occur readily at high temperatures. We would assume, therefore, that in southern Florida, late blight would not appear on potatoes and tomatoes except in the period from November to April. The events which are to be reported are not in agreement with such an assumption and indicate the need for further study of the fungus, Phytophthora infestans, particularly with reference to its ability to survive and infect during long periods when temperatures are far above the optimum for zoospore production.

Late blight has been very destructive to potatoes and tomatoes during recent seasons. The appearance of late blight on tomatoes of early fall crop in 1945 was prior to its occurrence on potatoes, and suggested that the tomato strain of the fungus had become established locally and had survived the summer. In 1946, the disease was found on potatoes as early as October 22, and although there was evidence that the seed stock was infected, the infection had developed and spread under high temperature conditions. The disease also was seen on wild tomatoes and volunteer potatoes at about the same time, and under conditions believed to preclude spread from the infected cultivated potatoes.

During the winter of 1946-47, late blight affected both tomatoes and potatoes with great severity. There was nothing about this development that was unusual with reference to the known behavior of Phytophthora infestans under the current weather conditions.

Since the end of the growing season, attention has been given to watching for the development of late blight on plants that might carry the fungus through the summer. On June 9, Phytophthora infestans was very active on late tomatoes that had not shown the disease during the usual season. The fungus was fruiting abundantly on the foliage lesions, and had produced a high percentage of infected fruits. Some of the infected fruits were sent to Dr. Donald Reddick who has isolated the fungus and hopes to study the culture.

On June 19 a large number of volunteer potatoes growing in an old bean field were found to have a heavy foliage infection with late blight. The lesions were abundant, fully typical, and the fungus was fruiting freely on the under surfaces of the infected leaves.

Some late blight lesions were found again on volunteer potatoes on July 15. At this time the lesions were fewer, somewhat darker than usual, and sporulation was occuring on only one of them.

The weather throughout the period of these observations has been extremely wet, a condition believed to be favorable to late blight. However, temperatures have been far above the optimum considered necessary for the fungus to produce zoospores and infect. Daily maximums have been in the range of 85 to 90° F. At the end of May there were a few nights when the minimum temperatures were as low as 67° F. for a few hours. However, since early in June there probably have been no temperatures below 75° F. The daily mean temperatures have been above 80° F.

BELLE GLADE, FLORIDA. July 18.

LATE BLIGHT AND POTATO STORAGE ROTS IN COLORADO

W. D. Thomas, Jr. and Geo. H. Lane

Owing to continual spraying and dusting operations late in the 1946 field season, late blight did not cause heavy field losses of potatoes in Weld and Morgan Counties. However, abnormal precipitation and late irrigation in September apparently washed inoculum from stem lesions to the tubers. This was evidenced by a 2 percent storage loss in this area due to late blight. These same conditions caused over 5 percent loss in storage due to "Western leak", caused by Pythium spp. and Phytophthora spp.

A trace of late blight was observed in the field in the San Luis Valley area, limited to an area of approximately 25 sq. mi. about one infection locus where diseased seed had been planted. This is the first time that late blight had been reported in the San Luis Valley. As a water shortage forced the growers to surface-irrigate rather than sub-irrigate, tuber rot due to late blight and leak was accentuated, resulting in approximately an 8 percent loss in storage due to the combined effects of these diseases.

Active late blight was observed on May 7, 1947, in two cull piles in Weld County, verified by spore trap exposures. These dumps were found to be active yet on June 24, but they have been burned since. Evidence of blight infection was found in one field in Weld County on June 31, but dry weather conditions had eliminated any active dis-

semination of spores. On July 2 a trace of seed-borne infection was observed in several fields in the San Luis Valley; since that time cool, damp weather has prevailed. As growers in this area are just beginning to use fungicides, it is feared that late blight in the San Luis Valley may pose a serious problem in 1947 unless drier conditions occur. On July 3 a trace of seed-borne late-blight was found in the field in Montrose County. This was the first time the disease had been observed in this semi-arid area.

Less seed infected with late blight has been planted in 1947 than in 1946, following a caution to the growers by the Experiment Station. The growers are carrying on intensive control operations with such compounds as Cuprocide and Dithane starting when the plants were approximately 3 inches high. It is hoped that with elimination of cull piles and more active control programs, late blight in Colorado may be held to a minimum in 1947.

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY
AGRICULTURAL EXPERIMENT STATION
FORT COLLINS, COLORADO

PROGRESS REPORTS ON LATE BLIGHT

POTATO LATE BLIGHT IN CANADA: We have received the following telegram, dated July 17, from Mr. J. F. Hockey, Officer-in-Charge of our Laboratory at Kentville, Nova Scotia:

"Late blight has been found on potatoes in Scotts Bay, Kings County, and Wedgeport, Yarmouth County, where foggy weather has prevailed several days. Infection source appears to be local."

This is the first report of late blight in Canada this year, except for a few plants affected at Ladner, British Columbia. -- D. B. O. Savile, Canada Department of Agriculture, Central Experimental Farm, Ottawa, Ontario. July 18.

POTATO LATE BLIGHT IN MAINE: A fairly widespread outbreak of late blight on potato in Central Maine was reported by the Extension Service on June 20. The disease appeared first in a few scattered plantings in Piscataquis County on June 17 and during the next 3 days a survey by crops specialists of the Extension Service showed widespread infection in many plantings. A survey during the same interval in Aroostook County, the heart of the potato industry in Maine, failed to reveal any late blight. The disease was found fruiting in cull potato piles near Presque Isle on June 6. A survey by the writer of potato and tomato plantings in southeastern Maine on June 17 and 18 also failed to reveal any late blight in that area. A spray warning

notice will be issued to growers during the week of July 21. -- M. T. Hilborn, Maine Agricultural Experiment Station, Orono. June 20.

POTATO LATE BLIGHT IN VERMONT: Our seed potato inspector, Miss Elizabeth Clarke, reports finding late blight in full force, July 7, in a garden plot of potatoes at Randolph Center. This is the earliest date that I can recall for finding this disease in Vermont. -- H. L. Bailey, Vermont State Department of Agriculture, Montpelier. July 10.

TOMATO LATE BLIGHT IN MASSACHUSETTS GREENHOUSE: Dr. E. F. Guba at our Field Station in Waltham reports that on May 29 he observed a severe case of late blight on tomatoes in a greenhouse in Plymouth County. The disease appeared to him to have been present there for at least one month. He wrote that this is the first time he has observed late blight on the spring crop of greenhouse tomatoes. We commonly see it there in the fall.

It is quite obvious that late blight has been carried along through the winter in greenhouses, and that such cases as this one could readily be the source of early season infection of outdoor tomatoes--either from direct transfer of the fungus from hothouse to gardens and fields, or from its spread from the greenhouse crop to local plant beds (which sometimes are right in the greenhouse itself) and then into the field. -- O. C. Boyd, Massachusetts State College, Amherst, June 19.

LATE BLIGHT IN RHODE ISLAND: A light late blight infection has been found in Rhode Island. Abundant inoculum is present for an incipient epiphytotic should weather conditions remain favorable. This is the first confirmed occurrence of late blight this year. -- John B. Rowell, Rhode Island State College, Kingston. July 21.

POTATO LATE BLIGHT IN NEW YORK: June 25 -- On June 21, H. D. Wells of Suffolk County, Long Island, reported:

"Late blight is now present on potato foliage on several south fork fields. Most farmers have applied 2 or 3 bordeaux or fixed copper applications."

At present it is too dry for much spread upstate.

July 16 -- Late blight was found on potatoes near Canastota in Central New York today. -- Charles Chupp, Cornell University, Ithaca.

LATE BLIGHT IN NEW JERSEY: July 7 -- Many tomato fields in Cumberland, Salem, Gloucester, and Burlington Counties were inspected on July 1, 2, and 3 but no trace of late blight was found. Numerous specimens of foliage, fruit, and entire plants of "diseased" tomatoes have also been received for examination from various parts of the State but these likewise failed to show any evidence of late blight.

Late blight was found on July 3 on potatoes in one field in Burlington County. Infection apparently had started in the proximinity of a pile of potatoes which had been temporarily stored in the field last fall, and where considerably decayed potato refuse was left on the ground. Blight was evident on a large percentage of the plants in this field. Most of the leaf lesions appeared to be approximately 5 to 7 days old but a few were more recent and sporulating abundantly. A few lesions were of very recent origin and had not yet sporulated.

Tomatoes in a nearby field on the same farm showed no blight.

July 14 -- Tomato late blight was observed in one field in Burlington County July 11 on the same farm where potato blight was observed July 3. -- C. M. Haenseler, New Jersey Agricultural Experiment Station, New Brunswick.

TOMATO AND POTATO LATE BLIGHT IN PENNSYLVANIA: July 1 -- Late blight on potatoes was brought to the County Agent on June 27. On July 1, 5 percent of the plants in one 5-acre field of potatoes were infected. The disease was not found in 3 other potato fields nor in 6 tomato fields visited in Cumberland County on July 1.

July 12 -- Late blight was found on tomatoes on July 9 in one out of 7 fields in Luzerne County; also on July 10 in 4 out of 8 fields in Lancaster County.

On potatoes, late blight was found on July 8 in 1 out of 8 fields, on July 9 in one field, on July 11 in 3 out of 10 fields, on July 10 in one field, in Franklin County.

July 19 -- Late blight on both potatoes and tomatoes has been on the increase during the past week.

On tomatoes, on July 18, late blight was found on 1 out of 3 fields in Adams County. Previously blight had been found in Lancaster and Luzerne Counties.

On potatoes, late blight was found on July 10 in Lehigh County, on July 17 in Schuylkill and Union Counties, on July 18 in Mifflin and Adams Counties. Previously late blight had been found on potatoes in Cumberland, Somerset, Wyoming, Potter, and Franklin Counties. -- R. S. Kirby, Pennsylvania State College, State College.

TOMATO LATE BLIGHT IN DELAWARE: Late blight was found June 25, in one field of tomatoes in Kent County. Incidence was light, sporulation heavy. Weather during the past 2 weeks in the northern half of Delaware has been favorable to late blight. -- J. W. Heuberger, University of Delaware, Newark. June 27.

LATE BLIGHT ON TOMATO, POTATO, AND SOLANUM DULCAMARA IN MARYLAND: Late blight was found July 2 in one small planting of tomatoes near Hagerstown, Maryland, by the County Agent of Washington County. Specimens were submitted for verification. The disease was sporulating abundantly on foliage but was not found on the fruit. Extensive inspections have been made in areas of commercial production of tomatoes on both the Eastern Shore and the rest of Maryland and to date blight has not been found. In some areas 80 percent of the acreage has already been either sprayed or dusted for the control of late blight.

Late blight was found on a few plants submitted by the County Agent of Caroline County on the Eastern Shore. The field was adjacent to a potato field. Sporulation was light. -- July 3.

July 14 -- Late blight in Maryland is apparently still confined to the two original locations reported on July 3. A survey of tomato fields in Washington and Carroll Counties on July 10 and 11 failed to reveal any further outbreaks of the disease. The garden in the outskirts of Hagerstown from which late blight was reported July 3 was visited on July 10. It was estimated that 15 percent of the foliage on these tomato plants as well as most of the half-grown fruits were infected. The plants had been dusted once with a fixed copper but sporulation was heavy.

Early potatoes in the same garden were severely infected with late blight. They had not been dusted or sprayed. Potatoes were planted in the same site last year and were blighted severely. The grower stated that several volunteer potatoes had come up in the patch this spring. It is probable that these volunteer plants were the source of the inoculant this year.

Foliage of Solanum dulcamara (bitter sweet) growing as an ornamental in the same garden showed symptoms of late blight. The fungus sporulating on these leaves was microscopically indistinguishable from that on the tomato and potato foliage. This garden was in partial shade and the plants remained wet several hours after rain or heavy dew.

The infection of late blight in Caroline County on the Eastern Shore reported on July 3 was from a 2-acre tomato field with severe loss of potatoes at one side of the field. There is no evidence that the disease has spread to other fields in that area. A fungicide is being applied regularly.

July 21. On July 17, 5 additional cases of late blight on tomatoes were observed in the Hagerstown region. The disease seems to be spreading rapidly there. In the vicinity of Snow Hill on the Eastern Shore 3 affected tomato plantings were seen July 16; 2 were in home gardens, the other was a commercial field.

Dr. Jehle observed the disease on potatoes in the potato growing section near Oakland in Garrett County, July 19. -- Carroll Cox, University of Maryland, College Park.

LATE BLIGHT IN VIRGINIA: Eastern Virginia -- Late blight has been found on potatoes in the Norfolk area. Potato fields in which blight was observed were located on low lands and surrounded by pine forests. Below normal temperatures, following heavy rains on July 17, have been conducive to the late blight. As normal temperatures and little rain are predicted for the next 5 days slight damage, if any, is expected at this time. -- T. J. Nugent, Virginia Truck Experiment Station, Norfolk. June 24.

The potato late blight previously reported has spread very little. The occurrence of blight in the Norfolk area has amounted to only a trace. Only slight damage was done to the foliage and no blight has been found on the tubers. Digging in the Norfolk area is nearly over. The blight that did occur in the Norfolk area was in fields where the conditions were particularly favorable for blight because of low land and being surrounded on several sides by high windbreaks.

No late blight has been found on tomatoes in the Norfolk area and no blight has been found on either potatoes or tomatoes on the Eastern Shore. -- Harold T. Cook, Virginia Truck Experiment Station, Norfolk. July 10.

Western Virginia -- In Bedford County, July 10 and 11, three fields of potatoes were found to be infected with late blight. In one case damage was considerable. -- Paul R. Miller, Division of Mycology and Disease Survey, Beltsville, Maryland. July 12.

LATE BLIGHT IN WEST VIRGINIA: July 10 -- The potato late blight situation in the State has apparently changed but little in the past two weeks. It has been reported on potatoes by county agents from several counties, but in no case has it caused severe damage. Its spread and development have been checked by weather conditions.

Late blight on tomato has just been reported from Pleasants County by the county agent and from Leetown, Jefferson County, by Dr. Snezko.

July 18 -- Mr. C. F. Bishop, Extension Plant Pathologist, reports that late blight was severe in a 4-acre field of tomatoes in Potomac River Bottom, Morgan County, July 14. Sporulation was abundant on the lower leaves. The plants were vigorous and rank, set close together, with poor air drainage. The plants were shipped in from Florida and set early. No spray or dust had been applied and the grower stands to suffer heavy loss. -- H. L. Barnett, West Virginia University, Morgantown.

TOMATO LATE BLIGHT IN KENTUCKY: Late blight was reported from Whitley and Lawrence Counties, and a specimen was received from Lee County. -- W. D. Valleau, Kentucky Agricultural Experiment Station, Lexington. July 18.

LATE BLIGHT ON TOMATO AND POTATO IN OHIO: Late blight was found on tomatoes and identified by the writer in Meigs and Washington Counties on July 17. Five fields were found to be heavily infected with the fungus, showing the typical late blight lesions on 30 to 40 percent of the leaves on nearly 100 percent of the plants. The fungus was sporulating profusely and weather conditions were extremely favorable for the disease. However, only a small number of the fruits so far are affected. Wet cool weather has predominated this past week.

Late blight was also found in the vicinity of Dayton and in the vicinity of McGuffey on potatoes, on July 11 and July 15, respectively -- T. H. King, Ohio Extension Service, Columbus. July 19.

LATE BLIGHT NOT YET OBSERVED IN WISCONSIN: No late blight has been reported in Wisconsin as of this date. -- R. E. Vaughan, University of Wisconsin, Madison. July 8.

POTATO LATE BLIGHT IN MINNESOTA: Mr. R. C. Rose, Extension Pathologist, has already wired you that he found late blight at Hollandale, Minnesota, which is a peat area about 20 miles north of the Iowa border. Here is some more information on the situation as Mr. Rose gave it to me orally.

Blight was found in 3 locations. One was over a pit where potatoes had been stored, covered with soil, but never removed. Blight was found on several stems coming through the soil and had spread to adjacent plants. The second location was a potato dump where blight was just starting on a few plants. The third was a home garden where one infected stem was found and blight had spread to adjacent plants.

Potato dumps in the Red River Valley near East Grand Forks have been under close observation for about a month, but although rainfall has been above normal there except for the past two weeks and the temperature below normal, no signs of blight have been found. Many of the fields that were planted early were damaged by heavy rains, and the fields planted later are just emerging. -- Carl J. Eide, University of Minnesota, University Farm, St. Paul. July 11.

NEGATIVE REPORT FROM IOWA: Thus far Dr. Hooker and I have not found any late blight on tomatoes or potatoes in eastern, central, or northern Iowa, although we have done a reasonable amount of searching. -- W. F. Buchholtz, Iowa State College, Ames. July 16.

NEGATIVE SUMMARY FROM GEORGIA: The following is a brief summarization of our observations in South Georgia during the spring of 1947. None of us on this project saw any late blight on tomatoes in Georgia during the plant season of 1947 and none was reported by the inspectors, the growers or the County Agents. At the time this is written (July 7) no reports of late blight on Georgia grown plants have been received from any source. Temperatures were below normal throughout the growing season but rainfall was also below normal. In fact, we have suffered from drought most of the time since March 15. Tomato plants grew slowly and were very hard. -- Edward K. Vaughan, Division of Fruit and Vegetable Crops and Diseases, Tifton. July 7.

LATE BLIGHT ABSENT IN TEXAS: There was no late blight in either potatoes or tomatoes in Lower Rio Grande Valley fields this year, and, insofar as I have been informed, in any of the other tomato or potato areas in Texas. -- G. H. Godfrey, Texas Substation No. 15, Weslaco. July 8.

BRIEF NOTES ON PLANT DISEASES

SEPTOBASIDIUM OBSERVED ON TUNG IN LOUISIANA

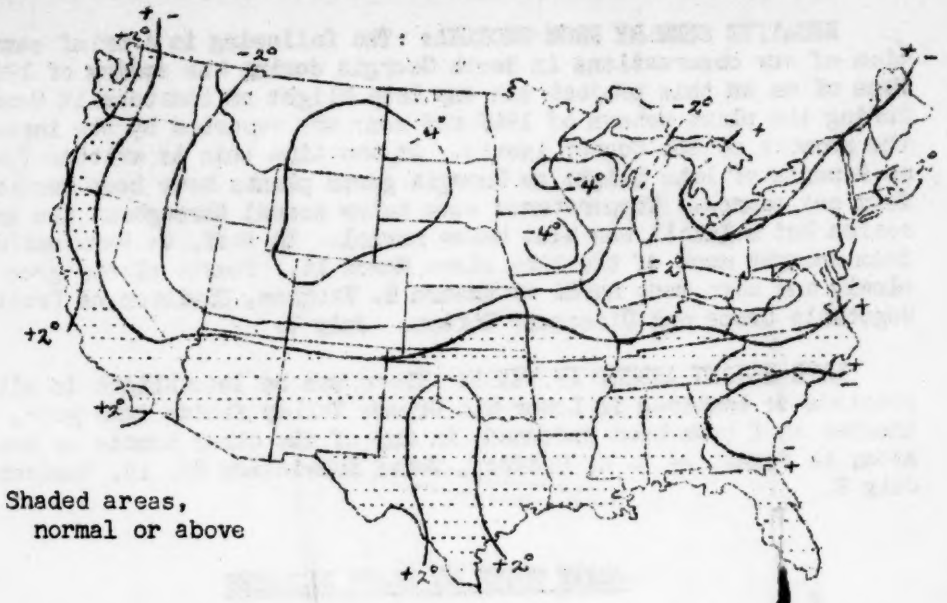
By John R. Large

In May and June 1947, a fungus identified by John A. Stevenson as belonging to the genus Septobasidium, probably S. pseudopedicellatum, was observed on tung trees in two widely separated tung orchards in St. Tammany Parish, Louisiana. So far as is known this fungus, which lives in a symbiotic relationship with scale insects, has not previously been reported on tung.

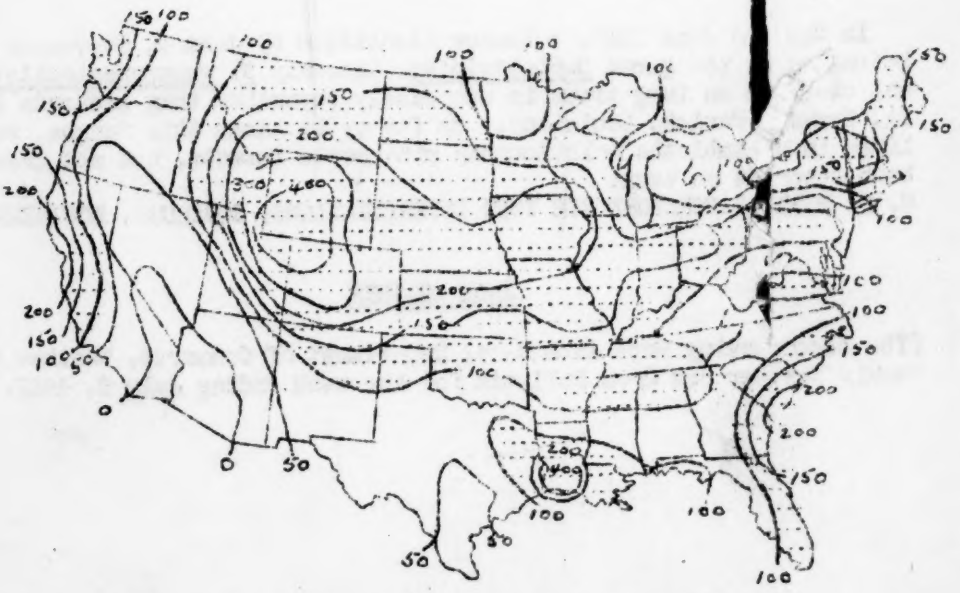
U. S. FIELD LABORATORY FOR TUNG INVESTIGATIONS, BOGALUSA, LOUISIANA

JUNE WEATHER

(The accompanying maps from U. S. Department of Commerce, Weather Bureau, Weekly Weather and Crop Bulletin for the week ending July 8, 1947.)



Map I. Departure of Mean Temperature from Normal, June 1947



Map II. Percentage of Normal Precipitation, June 1947

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